

Atmospheric Monitoring Report
Erie, Pennsylvania
June 14 - 17, 2010

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U.S. Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Washington, D.C. 20460

Background

Erie Coke Corporation is a merchant producer of foundry coke. The facility is located on East Avenue in Erie Pennsylvania, on the shore of Lake Erie. To the south of the facility is an adult rehabilitation center and residential homes.

Coke ovens produce "coke oven emissions," which are collectively a Hazardous Air Pollutant under the Clean Air Act. Coke oven emissions contain many toxic compounds, including benzene. From June 14th through the 17th, the United States Environmental Protection Agency (EPA) collected benzene concentration data near Erie Coke using an open-path ultra violet differential optical absorption spectrometer (UV DOAS) manufactured by Opsis Ab, Furulund, Sweden.¹ Wind speed, wind direction, and temperature and pressure data were also collected using a Climatronics weather station elevated to 10 m on a telescoping mast. In addition, seven SUMMA canister samples were collected downwind of the facility for analysis of benzene and other gases using Toxics Organics method 15 (TO-15), and one sample was collected upwind of the facility as a background concentration check. The TO-15 analysis was conducted by the Pennsylvania Department of Environmental Protection, Bureau of Laboratories, in Harrisburg, Pennsylvania.

The Field Team included Mr. Cary Secrest, EPA Air Enforcement Division, and Messrs. James Hagedorn and Richard Eaton, EPA Region 3 Air Protection Division.

Quality Assurance and Quality Control

The UV DOAS was initially calibrated for benzene on July 31, 2009, using an 8-point span and offset calibration ("multi-point calibration"). Adjustments were made for spectral fitting and linearity. Such multi-point calibrations are done annually, or when the need is indicated by subsequent 4-point span and offset calibration checks. For this project, the quality of the UV DOAS data was assured by conducting 4-point point span and offset gas calibration checks at the Office of Civil Enforcement, Air Enforcement Division (AED) Laboratory, located at the EPA Environmental Science Center, in Ft. Meade, Maryland prior to departure to Erie, Pennsylvania; and upon arrival to, and departure from Erie, Pennsylvania.

The calibration checks were done using a 2% accuracy NIST-traceable benzene reference gas standard. The calibration checks indicated that the measurement bias ranged from -7% to + 4% over a span range of 0 ppbV to 197.5 ppbV. The calibration checks were acceptable and indicated that a new multi-point calibration was not required.

¹ References to instrument manufacturers is for informational purposes only and does not constitute product endorsement by the United States Environmental Protection Agency.

In addition, daily quality control checks, including detection System Checks and benzene Wavelength Precision Checks indicated that the DOAS analyzer operated normally during the field measurement campaign.

The UV DOAS analyzer clock and the Climatronics meteorological data logger clock were checked daily to ensure that the data time stamps were within 5 seconds of agreement with GPS time. The Climatronics wind direction readings were compared with a hand-held compass daily to ensure that the sensor's auto-alignment system (to magnetic north) was functional.

UV DOAS Data Validation

The validated 1- and 5-minute integrated benzene concentration data are included in the spreadsheet entitled "Erie Coke UV DOAS and Met Data.xls" which is sent electronically with this report. During field measurements there were three one-minute periods when an object blocked the light path, rendering the 1-minute integrated concentration data invalid because of insufficient light levels; that data is flagged as indicated on the spreadsheet. Otherwise, light levels were sufficient for measurements and no other data was deemed to be invalid.

The UV DOAS produces both the mean concentration and the standard deviation for each measurement. The standard deviation is an expression of the uncertainty of the concentration and is based on the fitting of the recorded benzene spectrum with the library spectrum file in the analyzer. The data is of sufficient quality for comparison with ambient standards when the concentration to deviation ratio (C:D) is equal to or greater than 10:1 (e.g. $\geq 10 \text{ ppbV} \pm 1 \text{ ppbV}$). Ratios of less than 10:1 but equal to or greater than 3:1 indicate that benzene was detected but the uncertainty as indicated by the deviation should be considered when making comparisons with ambient standards. During this project, benzene concentration data of $\geq 5.1 \text{ ppbV}$ had a C:D of $\geq 10:1$; concentration data $\geq 1.5 \text{ ppbV}$ had a C:D ratio of $\geq 3:1$.

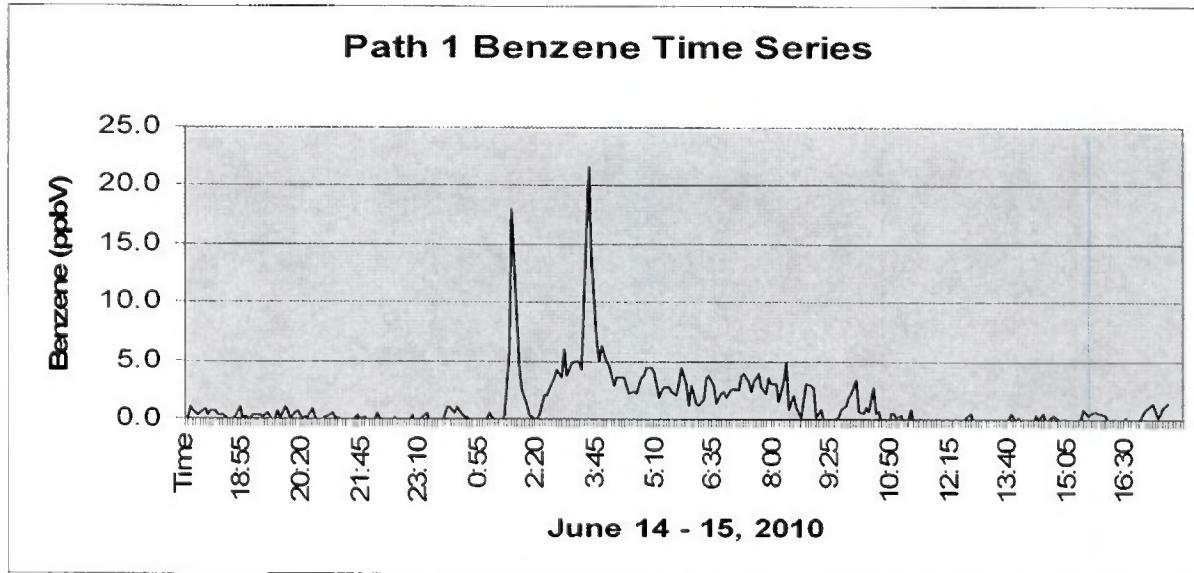
The spreadsheet includes both the raw 1-minute mean and deviation data, and the offset-corrected 5-minute data. The need for an offset correction was indicated during measurements in the afternoon of June 17th when the measurement location was downwind of Lake Erie. The background benzene concentration as measured by TO-15 (SUMMA sample No. 8, canister I.D. PA97043) was 0.082 ppb, well below the detection limit of the UV DOAS. An analysis of the data at that time indicates that the UV DOAS had a slight positive offset of 1.9 ppbV; therefore the 5-minute data was corrected by subtracting 1.9 ppbV from the measured values.

Measurement Site Notes

Dates: June 14 - 15, 2010

Measurement Path 1: The 180 m measurement path was located at the Erie Wastewater Treatment Plant (WWTP), and was oriented north to south approximately

420 m west of the coke ovens. Measurements began at 17:31 on the 14th and concluded at 17:30 on the 15th for a total of 1,402 minutes of data. Path 1 was downwind of the coke ovens approximately 64% of the time; however, wind direction variability may have been influenced by trees because the met tower was located at a distance from the trees of approximately 3 to 5 times the height of the trees (the accepted standard for avoiding obstacle turbulence is a distance equal to 10 times the height of the obstacle). The Path 1 benzene time series data is presented below:



At approximately 01:45 on June 15th, the WWTP night guard noticed a cloud overhead of the plant, moving from the direction of Erie Coke. The first peak on the time series chart begins at 01:40 on June 15th. The guard also noted that approximately 15 City of Erie trucks arrived in area of Path 2 to deliver compost materials between 04:26 and 04:56 on June 15th.

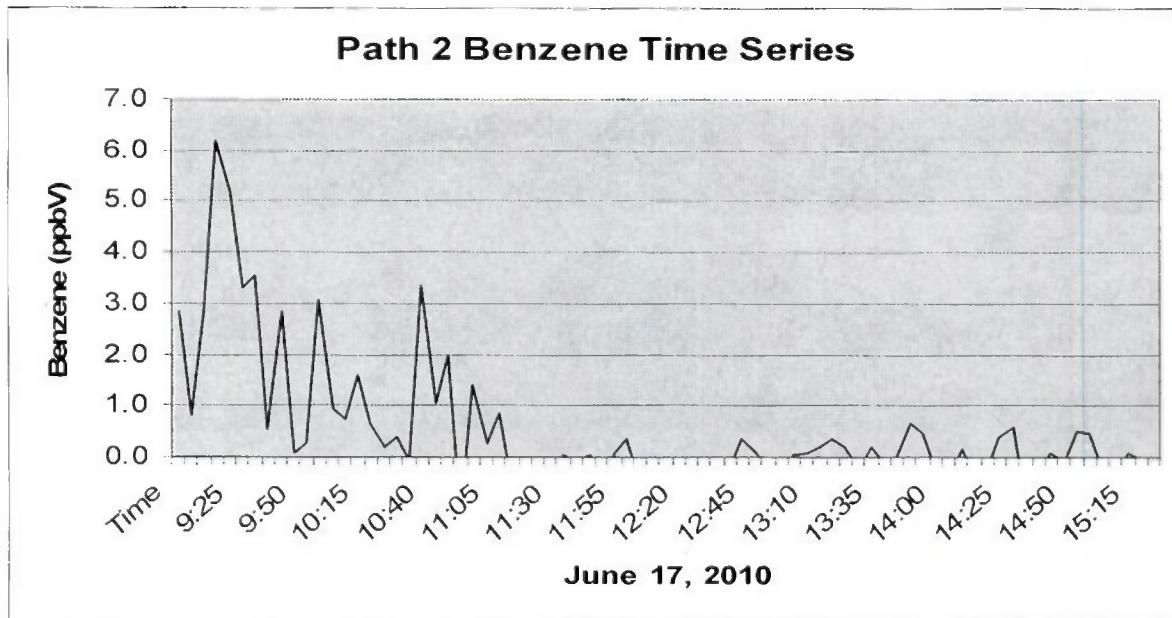
Date: June 16, 2010

The Field Team collected three SUMMA samples for T0-15 analysis, approximately 360 m downwind of the coke ovens. The sample location was approximately 50 m offshore, on Lake Erie. The winds were from the WSW at 15 to 20 mph (source: National Weather Service Broadcast Station). The SUMMA samples and collection times were as follows:

<u>SUMMA Canister I.D.</u>	<u>Collection Time</u>	<u>Benzene Concentration (ppb)</u>
No. 1 (PA9704)	14:41:19	1.5
No. 2 (PA97017)	15:07:00	0.99
No. 3. (PA97022)	15:12:55	1.3

Date: June 17, 2010

Measurement Path 2: The 164 m measurement path was oriented west to east near the Barber National Institute adult rehabilitation facility, and was stationed 360 m to the southeast of the coke oven batteries. Measurements began at 09:05 and ended at 15:25. The Path 2 benzene concentration time series is shown on the graph below.



The measurement path was downwind of Erie Coke about 36% of the time, and mostly only during the morning of the 17th.

The Field Team collected four SUMMA samples for TO-15 analysis. The samples were collected at the same location at approximately the middle of Path 2.

<u>SUMMA Canister I.D.</u>	<u>Collection Time</u>	<u>Benzene Concentration (ppb)</u>	
		<u>Summa</u>	<u>DOAS</u>
No. 4 (PA97032)	09:50:57	0.28	1.4 ± 0.5
No. 5 (PA97035)	10:10:13	0.082	2.2 ± 0.6
No. 6 (PA97036)	10:27:52	0.18	0.8 ± 0.5
No. 7 (PA97038)	10:51:32	3.1	4.2 ± 0.5

At 14:54:11, the Field Team collected SUMMA sample No. 8 (Cannister I.D. PA97043) as a background sample at the East Avenue Boat Launch, located to the east of Erie Coke. The estimated benzene concentration was 0.082 ppb.

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Attachments

1. Calibration Records
2. Path Locations
3. SUMMA Sample Results

By Electronic Transmittal

1. Erie Coke UV DOAS and Met Data.xls

EPA Administrative File

1. Summa Canister Chain-of-Custody
2. Field Notes
3. PADEP Laboratory Reports

Attachment 1. Calibration Records

Opsis Analyzer for Air Quality Monitoring

SPAN/OFFSET CALIBRATION CHECK
Project: Erie Coke Pre-deployment Calibration Check

Analyzer S/N E466

Site Location Erie, PA (hotel)

Date 6-14-10

Gas Cylinder ID CAL 016898

Test Gas benzene

127 ppm

Last Calibration 6-1-10

Calibration Setup Data		2	Initial Analyzer Data		
Cell length(s) L ₀		L ₀₁ = <u>0.1006 m</u> 0.03998	Reference path length L.....		<u>250 m</u>
		L ₀₂ = <u>0.2488 m</u> 0.01006	Reference ID.....		<u>090729</u>
		L ₀₃ = <u>0.5015 m</u> 0.2488	Emitter lamp ID.....		<u>B5</u>
Temperature.....		<u>78.5 F</u>	Span setting (existing).....		<u>1.00</u>
Pressure.....		<u>974,900 mbar</u>	Offset setting (existing).....		<u>0.00</u>
Light Int.....		<u>1614</u>	N.L. Active		
GG 400?.....		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Preparations		
LF 215/220?.....		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Cal. Measurement Time.....		<u>00:25</u>
Normal Path Measurement Time		<u>00:25</u>	Initial System Name.....		<u>Span.cal</u>
			System Name Changed.....		ok <input type="checkbox"/>
			Cal. System Name "SPAN.CAL".....		ok <input checked="" type="checkbox"/>

System check		All ok?	Final setting	6	Calibration lamp CA 004 test
P1	<u>7</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	P1 <u>0</u>		Shift..... <u>-2</u> ch.
P2	<u>3901</u>	Repeated?	P2 <u>3904</u>		Adjusted.... Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
P3	<u>29</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	P3 <u>29</u>		Final shift.... <u>-2</u> ch.
P4	<u>0</u>	Correction P4?	P4 <u>1</u>		
P5	<u>38.56</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	P5 <u>38.61</u>		AF = <u>92.303</u>

Cal. Gas conc. C/ppm	Cell conc. C _c /ppm	Cal cell length L _{cm}	(X) Length Correction C _{c'} = (C _c) x (L _c /L) / ppb	(Y) Analyzer resp. / ppb	Standard dev. / ppb
		0.0000	0.0	-0.2	0.1
L _{C1}	<u>0.03998</u>	0.1006	<u>20.3</u>	<u>21.1</u>	<u>0.3</u>
L _{C1} + L _{C2}	<u>0.14004</u>	0.3494	<u>71.1</u>	<u>72.0</u>	<u>0.6</u>
L _{C1} + L _{C2} + L _{C3}	<u>0.38884</u>	0.8509	<u>197.5</u>	<u>195.8</u>	<u>2.2</u>

r =	Final settings:	Span Offset
		<u>1.00</u>
		<u>-1.6</u>

Operator comments

Aug 14, 2010
Operator Signature

9

10

Multipoint Span Calibration/Calibration Check/Lamp Comparison

Date: 6-14-10 Operator: Secret
 Gas: Benzene Active Reference: 090729

Gas Cyl. No. CAL 016898
 Gas Exp. 6-30-10

127 ppm

Cells	First Check	1	2	3	4	5	6	7	8	Average
Span/offset = 1.00/6.0										1.0
0	Conc.	1.9	1.1	1.9						0.2
	Dev.	0.2	0.2	0.1						23.4
1	Conc.	23.7	23.4	23.2						0.4
	Dev.	0.4	0.4	0.4						75.8
1+2	Conc.	75.7	75.9	75.7						1.0
	Dev.	1.1	0.9	0.9						207.6
1+2+3	Conc.	207.7	207.4	207.7						2.1
	Dev.	2.0	2.1	2.1						
2	Conc.									
	Dev.									
1+3	Conc.									
	Dev.									
2+3	Conc.									
	Dev.									
1+2+3	Conc.									
	Dev.									

Second Check	Span/offset = 1.00/-1.0	1	2	3	4	5	6	7	8	Average
0	Conc.	0.3	-0.7	-0.2						-0.2
	Dev.	0.2	0.1	0.1						0.1
1	Conc.	21.5	20.7	21.1						21.1
	Dev.	0.3	0.3	0.3						0.3
1+2	Conc.	71.7	71.7	73.1						72.0 ^{0.4} _{es}
	Dev.	0.6	0.6	0.6						0.6
1+2+3	Conc.	197.4	195.3	194.6						195.8
	Dev.	2.0	2.2	2.2						2.2

Fibers
 Cal Lamp: 2m S 940
 Cal Recvr: CAL R7-02

Hg Lamp: 2m S 944
 Telescope Receiver:
CAL R7-02

Lamp ID: R8

Opsis Analyzer for Air Quality Monitoring

SPAN/OFFSET CALIBRATION CHECK

Project: Erie Coke Post-Deployment Calibration Check

Analyzer S/N E466

Site Location Barber Parking Lot

Date 6-17-10

Gas Cylinder ID CAL 016 898

Test Gas benzene

Last Calibration 6-14-10

127 ppm

Calibration Setup Data

Cell length(s) L_0 $L_{01} = 0.1006 \text{ m}$ 0.03998

$L_{02} = 0.2488 \text{ m}$ 0.010006

$L_{03} = 0.6045 \text{ m}$ 0.2488

Temperature..... 72.7 F

Pressure..... 29.41" Hg

Light Int..... Lux... 1480

GG 400?..... Yes No

LF 215/220?..... Yes No

Initial Analyzer Data

Reference path length L..... 250 m

090729

BS

1.00

0.00

N.L. Correction Active

Preparations

Cal. Measurement Time..... 00:25

Initial System Name..... Span.cal

ok

System Name Changed.....

ok

Cal. System Name "SPAN.CAL".....

ok

Normal Path Measurement Time

00:25

4

System check

P1 8
P2 4044
P3 20
P4 0
P5 5e.77

All ok?

Yes No

Repeated?

Yes No

Correction P4?

Yes No

Final setting

P1 1
P2 4075
P3 26
P4 0
P5 54.83

Calibration lamp CA 004 test

Shift..... -3 ch.

Adjusted.... Yes No

Final shift.... -7 ch.

AF = 91.498

Cal. Gas conc. C/ppm	Cell conc. C _c /ppm	Cal cell length L _{clm}	(X) Length Correction $C'_c = (C_c) \times (L_c/L) / \text{ppb}$	(Y) Analyzer resp. / ppb	Standard dev. / ppb
		0.0000	0.0	-0.4	0.1
L_{c1}		0.1006	20.3	18.9	0.2
$L_{c1} + L_{c2}$		0.3494	71.1	66.9	0.4
$L_{c1} + L_{c2} + L_{c3}$		0.8509	+89.9 107.5 02.	189.0	0.9

r =

Final settings:

Span

Offset

/

Operator comments

Cary Sease
Operator Signature

Multipoint Span Calibration/Calibration Check/Lamp Comparison

Date: 9-17-10 Operator: *Secret*
 Gas: Benzene Active Reference: 090729
127 ppm

Gas Cyl. No. CAL 016898
 Gas Exp. 6-30-10

Cells	Average							
	1	2	3	4	5	6	7	8
0	Conc.							
	Dev.							
1	Conc.							
	Dev.							
2	Conc.							
	Dev.							
1+2	Conc.							
	Dev.							
3	Conc.							
	Dev.							
1+3	Conc.							
	Dev.							
2+3	Conc.							
	Dev.							
1+2+3	Conc.							
	Dev.							

Check	Average							
	0	1	2	3	4	5	6	7
0	Conc.	0.2	-0.7	-0.7				
	Dev.	0.1	0.1	0.1				
1	Conc.	18.8	18.7	19.1				
	Dev.	0.1	0.2	0.2				
1+2	Conc.	16.7	16.8	17.3				
	Dev.	0.4	0.3	0.4				
1+2+3	Conc.	189.9	185.5	185.5				
	Dev.	1.0	0.9	0.9				

Fibers
 Cal Lamp: 2mS940
 Cal Recvr: CAL R7-02
 Lamp ID: 28

Hg Lamp: 2mS944
 Telescope Receiver: CAL R7-02

Attachment 2. Path Locations

 Google

Eye alt 2901 ft

Image PA Department of Conservation and Natural Resources-PAMAP/USGS

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42°08'36.05" N 80°04'21.22" W Elev 579 ft

Imagery Date Apr 1, 2005

Elie Coke Ovens

Path 1 Receiver

N



Attachment 3. SUMMA Sample Results

Erie Coke Summa Cannister Results (Pennsylvania DEP Bureau of Laboratories)

Date Collected	Seq No	Analyte Short Desc	Quality Code	Final Amount (pM)	MW	ug/m3	Date Analyzed
16-Jun-10	1	Carbon Tetrachloride		0.12	153.8	0.755	13-Jul-10
16-Jun-10	1	Acetone		18	58.1	42.766	13-Jul-10
16-Jun-10	1	Chloroform	U	0.11	119.4	0.537	13-Jul-10
16-Jun-10	1	Benzene	Q	1.5	78.1	4.791	13-Jul-10
16-Jun-10	1	1,1,1-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
16-Jun-10	1	Bromomethane	U	0.13	95.0	0.505	13-Jul-10
16-Jun-10	1	Chloromethane	Q	1.1	50.5	2.272	13-Jul-10
16-Jun-10	1	Chloroethane	U	0.13	64.5	0.343	13-Jul-10
16-Jun-10	1	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	13-Jul-10
16-Jun-10	1	Methylene Chloride	JB	0.08	84.9	0.278	13-Jul-10
16-Jun-10	1	Carbon Disulfide	U	0.12	76.1	0.373	13-Jul-10
16-Jun-10	1	Bromoform	U	0.12	252.8	1.241	13-Jul-10
16-Jun-10	1	Bromodichloromethane	U	0.11	163.8	0.737	13-Jul-10
16-Jun-10	1	1,1-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
16-Jun-10	1	1,1-Dichloroethene	U	0.11	97.0	0.436	13-Jul-10
16-Jun-10	1	Trichlorofluoromethane		0.29	137.4	1.629	13-Jul-10
16-Jun-10	1	Dichlorodifluoromethane	Q	0.75	120.9	3.708	13-Jul-10
16-Jun-10	1	1,1,2-Trichlorotrifluoroethane	J	0.11	187.4	0.843	13-Jul-10
16-Jun-10	1	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	13-Jul-10
16-Jun-10	1	1,2-Dichloroproppane	U	0.12	113.0	0.555	13-Jul-10
16-Jun-10	1	MEK	Q	0.88	72.1	2.595	13-Jul-10
16-Jun-10	1	1,1,2-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
16-Jun-10	1	Trichloroethene	U	0.12	131.4	0.645	13-Jul-10
16-Jun-10	1	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	13-Jul-10
16-Jun-10	1	Hexachlorobutadiene	U	0.11	260.7	1.173	13-Jul-10
16-Jun-10	1	o-Xylene	U	0.12	106.2	0.521	13-Jul-10
16-Jun-10	1	1,2-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
16-Jun-10	1	1,2,4-Trimethylbenzene	J	0.032	120.2	0.157	13-Jul-10
16-Jun-10	1	Ethylbenzene	U	0.12	106.2	0.521	13-Jul-10
16-Jun-10	1	Styrene	J	0.038	104.2	0.162	13-Jul-10
16-Jun-10	1	1,4-Dichlorobenzene	U	0.11	147.0	0.661	13-Jul-10
16-Jun-10	1	1,2-Dibromoethane	U	0.11	187.9	0.845	13-Jul-10
16-Jun-10	1	1-bromopropane	U	0.11	123.0	0.553	13-Jul-10
16-Jun-10	1	1,3-Butadiene	U	0.11	54.1	0.243	13-Jul-10
16-Jun-10	1	Acrolein	B	1	56.1	2.294	13-Jul-10
16-Jun-10	1	1,2-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
16-Jun-10	1	MIBK	U	0.12	100.2	0.492	13-Jul-10
16-Jun-10	1	m/p-Xylene	J	0.049	106.2	0.213	13-Jul-10
16-Jun-10	1	1,3,5-Trimethylbenzene	J	0.014	120.2	0.069	13-Jul-10
16-Jun-10	1	Toluene	Q	0.63	92.1	2.373	13-Jul-10
16-Jun-10	1	Chlorobenzene	U	0.11	112.6	0.507	13-Jul-10
16-Jun-10	1	Tetrahydrofuran	U	0.12	72.1	0.354	13-Jul-10
16-Jun-10	1	n-Hexane	J	0.028	86.2	0.099	13-Jul-10
16-Jun-10	1	Cyclohexane	U	0.12	84.2	0.413	13-Jul-10
16-Jun-10	1	Propene	Q	1	42.1	1.722	13-Jul-10
16-Jun-10	1	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	13-Jul-10
16-Jun-10	1	Dibromochloromethane	U	0.11	208.3	0.937	13-Jul-10
16-Jun-10	1	Tetrachloroethene	U	0.12	165.8	0.814	13-Jul-10
16-Jun-10	1	n-Heptane	U	0.12	100.2	0.492	13-Jul-10

16-Jun-10	1	cis-1,2-Dichloroethene	U		0.12	97.0	0.476	13-Jul-10
16-Jun-10	1	trans-1,2-Dichloroethene	U		0.12	97.0	0.476	13-Jul-10
16-Jun-10	1	1,3-Dichlorobenzene	U		0.12	147.0	0.721	13-Jul-10
16-Jun-10	1	2-Hexanone	U		0.12	100.2	0.492	13-Jul-10
16-Jun-10	1	1-Ethyl-4-methylbenzene	U		0.12	120.2	0.590	13-Jul-10
16-Jun-10	1	Methyl Tert-Butyl Ether	U		0.12	88.2	0.433	13-Jul-10
16-Jun-10	1	cis-1,3-Dichloropropene	U		0.12	111.0	0.545	13-Jul-10
16-Jun-10	1	trans-1,3-Dichloropropene	U		0.12	111.0	0.545	13-Jul-10
16-Jun-10	2	Carbon Tetrachloride	J		0.086	153.8	0.541	29-Jun-10
16-Jun-10	2	Acetone	E		12	58.1	28.511	29-Jun-10
16-Jun-10	2	Chloroform	U		0.11	119.4	0.537	29-Jun-10
16-Jun-10	2	Benzene			0.99	78.1	3.162	29-Jun-10
16-Jun-10	2	1,1,1-Trichloroethane	U		0.12	133.4	0.655	29-Jun-10
16-Jun-10	2	Bromomethane	U		0.13	95.0	0.505	29-Jun-10
16-Jun-10	2	Chloromethane			0.87	50.5	1.797	29-Jun-10
16-Jun-10	2	Chloroethane	U		0.13	64.5	0.343	29-Jun-10
16-Jun-10	2	Chloroethene (vinyl chloride)	U		0.13	62.5	0.332	29-Jun-10
16-Jun-10	2	Methylene Chloride	JB		0.086	84.9	0.299	29-Jun-10
16-Jun-10	2	Carbon Disulfide	U		0.12	76.1	0.373	29-Jun-10
16-Jun-10	2	Bromoform	U		0.12	252.8	1.241	29-Jun-10
16-Jun-10	2	Bromodichloromethane	U		0.11	163.8	0.737	29-Jun-10
16-Jun-10	2	1,1-Dichloroethane	U		0.11	99.0	0.445	29-Jun-10
16-Jun-10	2	1,1-Dichloroethene	U		0.11	97.0	0.436	29-Jun-10
16-Jun-10	2	Trichlorofluoromethane			0.3	137.4	1.686	29-Jun-10
16-Jun-10	2	Dichlorodifluoromethane			0.68	120.9	3.362	29-Jun-10
16-Jun-10	2	1,1,2-Trichlorotrifluoroethane	J		0.097	187.4	0.743	29-Jun-10
16-Jun-10	2	1,2-Dichlorotetrafluoroethane	U		0.12	170.9	0.839	29-Jun-10
16-Jun-10	2	1,2-Dichloropropane	U		0.12	113.0	0.555	29-Jun-10
16-Jun-10	2	MEK			0.6	72.1	1.769	29-Jun-10
16-Jun-10	2	1,1,2-Trichloroethane	U		0.12	133.4	0.655	29-Jun-10
16-Jun-10	2	Trichloroethene	U		0.12	131.4	0.645	29-Jun-10
16-Jun-10	2	1,1,2,2-Tetrachloroethane	U		0.11	167.9	0.755	29-Jun-10
16-Jun-10	2	Hexachlorobutadiene	U		0.11	260.7	1.173	29-Jun-10
16-Jun-10	2	o-Xylene	U		0.12	106.2	0.521	29-Jun-10
16-Jun-10	2	1,2-Dichlorobenzene	U		0.12	147.0	0.721	29-Jun-10
16-Jun-10	2	1,2,4-Trimethylbenzene	U		0.12	120.2	0.590	29-Jun-10
16-Jun-10	2	Ethylbenzene	U		0.12	106.2	0.521	29-Jun-10
16-Jun-10	2	Styrene	U		0.12	104.2	0.511	29-Jun-10
16-Jun-10	2	1,4-Dichlorobenzene	U		0.11	147.0	0.661	29-Jun-10
16-Jun-10	2	1,2-Dibromoethane	U		0.11	187.9	0.845	29-Jun-10
16-Jun-10	2	1-bromopropane	U		0.11	123.0	0.553	29-Jun-10
16-Jun-10	2	1,3-Butadiene	U		0.11	54.1	0.243	29-Jun-10
16-Jun-10	2	Acrolein			1	56.1	2.294	29-Jun-10
16-Jun-10	2	1,2-Dichloroethane	U		0.11	99.0	0.445	29-Jun-10
16-Jun-10	2	MIBK	U		0.12	100.2	0.492	29-Jun-10
16-Jun-10	2	m/p-Xylene	J		0.069	106.2	0.300	29-Jun-10
16-Jun-10	2	1,3,5-Trimethylbenzene	U		0.12	120.2	0.590	29-Jun-10
16-Jun-10	2	Toluene			0.3	92.1	1.130	29-Jun-10
16-Jun-10	2	Chlorobenzene	U		0.11	112.6	0.507	29-Jun-10
16-Jun-10	2	Tetrahydrofuran	U		0.12	72.1	0.354	29-Jun-10
16-Jun-10	2	n-Hexane	U		0.12	86.2	0.423	29-Jun-10
16-Jun-10	2	Cyclohexane	U		0.12	84.2	0.413	29-Jun-10

16-Jun-10	2	Propene		0.51	42.1	0.878	29-Jun-10
16-Jun-10	2	1,2,4-Trichlorobenzene	U	0.13	181.4	0.964	29-Jun-10
16-Jun-10	2	Dibromochloromethane	U	0.11	208.3	0.937	29-Jun-10
16-Jun-10	2	Tetrachloroethene	U	0.12	165.8	0.814	29-Jun-10
16-Jun-10	2	n-Heptane	U	0.12	100.2	0.492	29-Jun-10
16-Jun-10	2	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	29-Jun-10
16-Jun-10	2	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	29-Jun-10
16-Jun-10	2	1,3-Dichlorobenzene	U	0.12	147.0	0.721	29-Jun-10
16-Jun-10	2	2-Hexanone	U	0.12	100.2	0.492	29-Jun-10
16-Jun-10	2	1-Ethyl-4-methylbenzene	U	0.12	120.2	0.590	29-Jun-10
16-Jun-10	2	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	29-Jun-10
16-Jun-10	2	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	29-Jun-10
16-Jun-10	2	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	29-Jun-10
16-Jun-10	3	Carbon Tetrachloride		0.12	153.8	0.755	28-Jun-10
16-Jun-10	3	Acetone		10	58.1	23.759	28-Jun-10
16-Jun-10	3	Chloroform	U	0.11	119.4	0.537	28-Jun-10
16-Jun-10	3	Benzene		1.3	78.1	4.152	28-Jun-10
16-Jun-10	3	1,1,1-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10
16-Jun-10	3	Bromomethane	U	0.13	95.0	0.505	28-Jun-10
16-Jun-10	3	Chloromethane		0.82	50.5	1.693	28-Jun-10
16-Jun-10	3	Chloroethane	U	0.13	64.5	0.343	28-Jun-10
16-Jun-10	3	Chloroethylene (vinyl chloride)	U	0.13	62.5	0.332	28-Jun-10
16-Jun-10	3	Methylene Chloride	B	0.21	84.9	0.729	28-Jun-10
16-Jun-10	3	Carbon Disulfide	U	0.12	76.1	0.373	28-Jun-10
16-Jun-10	3	Bromoform	U	0.12	252.8	1.241	28-Jun-10
16-Jun-10	3	Bromodichloromethane	U	0.11	163.8	0.737	28-Jun-10
16-Jun-10	3	1,1-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10
16-Jun-10	3	1,1-Dichloroethene	U	0.11	97.0	0.436	28-Jun-10
16-Jun-10	3	Trichlorofluoromethane		0.29	137.4	1.629	28-Jun-10
16-Jun-10	3	Dichlorodifluoromethane		0.68	120.9	3.362	28-Jun-10
16-Jun-10	3	1,1,2-Trichlorotrifluoroethane	J	0.096	187.4	0.736	28-Jun-10
16-Jun-10	3	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	28-Jun-10
16-Jun-10	3	1,2-Dichloroproppane	U	0.12	113.0	0.555	28-Jun-10
16-Jun-10	3	MEK		0.53	72.1	1.563	28-Jun-10
16-Jun-10	3	1,1,2-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10
16-Jun-10	3	Trichloroethene	U	0.12	131.4	0.645	28-Jun-10
16-Jun-10	3	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	28-Jun-10
16-Jun-10	3	Hexachlorobutadiene	U	0.11	260.7	1.173	28-Jun-10
16-Jun-10	3	o-Xylene	U	0.12	106.2	0.521	28-Jun-10
16-Jun-10	3	1,2-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10
16-Jun-10	3	1,2,4-Trimethylbenzene	U	0.12	120.2	0.590	28-Jun-10
16-Jun-10	3	Ethylbenzene	U	0.12	106.2	0.521	28-Jun-10
16-Jun-10	3	Styrene	U	0.12	104.2	0.511	28-Jun-10
16-Jun-10	3	1,4-Dichlorobenzene	U	0.11	147.0	0.661	28-Jun-10
16-Jun-10	3	1,2-Dibromoethane	U	0.11	187.9	0.845	28-Jun-10
16-Jun-10	3	1-bromopropane	U	0.11	123.0	0.553	28-Jun-10
16-Jun-10	3	1,3-Butadiene	U	0.11	54.1	0.243	28-Jun-10
16-Jun-10	3	Acrolein	U	0.11	56.1	0.252	28-Jun-10
16-Jun-10	3	1,2-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10
16-Jun-10	3	MIBK	U	0.12	100.2	0.492	28-Jun-10
16-Jun-10	3	m/p-Xylene	J	0.029	106.2	0.126	28-Jun-10
16-Jun-10	3	1,3,5-Trimethylbenzene	U	0.12	120.2	0.590	28-Jun-10

16-Jun-10	3	Toluene		0.2	92.1	0.753	28-Jun-10	
16-Jun-10	3	Chlorobenzene	U	0.11	112.6	0.507	28-Jun-10	
16-Jun-10	3	Tetrahydrofuran	U	0.12	72.1	0.354	28-Jun-10	
16-Jun-10	3	n-Hexane	U	0.12	86.2	0.423	28-Jun-10	
16-Jun-10	3	Cyclohexane	U	0.12	84.2	0.413	28-Jun-10	
16-Jun-10	3	Propene		0.52	42.1	0.895	28-Jun-10	
16-Jun-10	3	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	28-Jun-10	
16-Jun-10	3	Dibromochloromethane	U	0.11	208.3	0.937	28-Jun-10	
16-Jun-10	3	Tetrachloroethene	U	0.12	165.8	0.814	28-Jun-10	
16-Jun-10	3	n-Heptane	U	0.12	100.2	0.492	28-Jun-10	
16-Jun-10	3	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10	
16-Jun-10	3	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10	
16-Jun-10	3	1,3-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10	
16-Jun-10	3	2-Hexanone	U	0.12	100.2	0.492	28-Jun-10	
16-Jun-10	3	1-Ethyl-4-methylbenzene	U	0.12	120.2	0.590	28-Jun-10	
16-Jun-10	3	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	28-Jun-10	
16-Jun-10	3	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10	
16-Jun-10	3	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10	
17-Jun-10	4	Carbon Tetrachloride		0.12	153.8	0.755	28-Jun-10	
17-Jun-10	4	Acetone	E		11	58.1	26.135	28-Jun-10
17-Jun-10	4	Chloroform	U	0.11	119.4	0.537	28-Jun-10	
17-Jun-10	4	Benzene		0.28	78.1	0.894	28-Jun-10	
17-Jun-10	4	1,1,1-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10	
17-Jun-10	4	Bromomethane	U	0.13	95.0	0.505	28-Jun-10	
17-Jun-10	4	Chloromethane		0.75	50.5	1.549	28-Jun-10	
17-Jun-10	4	Chloroethane	U	0.13	64.5	0.343	28-Jun-10	
17-Jun-10	4	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	28-Jun-10	
17-Jun-10	4	Methylene Chloride	JB	0.059	84.9	0.205	28-Jun-10	
17-Jun-10	4	Carbon Disulfide	U	0.12	76.1	0.373	28-Jun-10	
17-Jun-10	4	Bromoform	U	0.12	252.8	1.241	28-Jun-10	
17-Jun-10	4	Bromodichloromethane	U	0.11	163.8	0.737	28-Jun-10	
17-Jun-10	4	1,1-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10	
17-Jun-10	4	1,1-Dichloroethene	U	0.11	97.0	0.436	28-Jun-10	
17-Jun-10	4	Trichlorofluoromethane		0.31	137.4	1.742	28-Jun-10	
17-Jun-10	4	Dichlorodifluoromethane		0.68	120.9	3.362	28-Jun-10	
17-Jun-10	4	1,1,2-Trichlorotrifluoroethane	J	0.096	187.4	0.736	28-Jun-10	
17-Jun-10	4	1,2-Dichlorotetrafluoroethane	J	0.026	170.9	0.182	28-Jun-10	
17-Jun-10	4	1,2-Dichloropropane	U	0.12	113.0	0.555	28-Jun-10	
17-Jun-10	4	MEK		0.84	72.1	2.477	28-Jun-10	
17-Jun-10	4	1,1,2-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10	
17-Jun-10	4	Trichloroethene	U	0.12	131.4	0.645	28-Jun-10	
17-Jun-10	4	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	28-Jun-10	
17-Jun-10	4	Hexachlorobutadiene	U	0.11	260.7	1.173	28-Jun-10	
17-Jun-10	4	o-Xylene	J	0.047	106.2	0.204	28-Jun-10	
17-Jun-10	4	1,2-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10	
17-Jun-10	4	1,2,4-Trimethylbenzene	J	0.059	120.2	0.290	28-Jun-10	
17-Jun-10	4	Ethylbenzene	J	0.028	106.2	0.122	28-Jun-10	
17-Jun-10	4	Styrene	U	0.12	104.2	0.511	28-Jun-10	
17-Jun-10	4	1,4-Dichlorobenzene	U	0.11	147.0	0.661	28-Jun-10	
17-Jun-10	4	1,2-Dibromoethane	U	0.11	187.9	0.845	28-Jun-10	
17-Jun-10	4	1-bromopropane	U	0.11	123.0	0.553	28-Jun-10	
17-Jun-10	4	1,3-Butadiene	U	0.11	54.1	0.243	28-Jun-10	

17-Jun-10	4	Acrolein		0.61	56.1	1.399	28-Jun-10	
17-Jun-10	4	1,2-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10	
17-Jun-10	4	MIBK	U	0.12	100.2	0.492	28-Jun-10	
17-Jun-10	4	m/p-Xylene	J	0.098	106.2	0.426	28-Jun-10	
17-Jun-10	4	1,3,5-Trimethylbenzene	J	0.013	120.2	0.064	28-Jun-10	
17-Jun-10	4	Toluene		0.31	92.1	1.168	28-Jun-10	
17-Jun-10	4	Chlorobenzene	U	0.11	112.6	0.507	28-Jun-10	
17-Jun-10	4	Tetrahydrofuran	U	0.12	72.1	0.354	28-Jun-10	
17-Jun-10	4	n-Hexane	U	0.12	86.2	0.423	28-Jun-10	
17-Jun-10	4	Cyclohexane	U	0.12	84.2	0.413	28-Jun-10	
17-Jun-10	4	Propene		0.43	42.1	0.740	28-Jun-10	
17-Jun-10	4	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	28-Jun-10	
17-Jun-10	4	Dibromochloromethane	U	0.11	208.3	0.937	28-Jun-10	
17-Jun-10	4	Tetrachloroethene	U	0.12	165.8	0.814	28-Jun-10	
17-Jun-10	4	n-Heptane	U	0.12	100.2	0.492	28-Jun-10	
17-Jun-10	4	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10	
17-Jun-10	4	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10	
17-Jun-10	4	1,3-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10	
17-Jun-10	4	2-Hexanone	U	0.12	100.2	0.492	28-Jun-10	
17-Jun-10	4	1-Ethyl-4-methylbenzene	J	0.016	120.2	0.079	28-Jun-10	
17-Jun-10	4	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	28-Jun-10	
17-Jun-10	4	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10	
17-Jun-10	4	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10	
17-Jun-10	5	Carbon Tetrachloride	J	0.071	153.8	0.447	13-Jul-10	
17-Jun-10	5	Acetone			7.9	58.1	18.770	13-Jul-10
17-Jun-10	5	Chloroform	U	0.11	119.4	0.537	13-Jul-10	
17-Jun-10	5	Benzene	J	0.082	78.1	0.262	13-Jul-10	
17-Jun-10	5	1,1,1-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10	
17-Jun-10	5	Bromomethane	U	0.13	95.0	0.505	13-Jul-10	
17-Jun-10	5	Chloromethane			0.67	50.5	1.384	13-Jul-10
17-Jun-10	5	Chloroethane	U	0.13	64.5	0.343	13-Jul-10	
17-Jun-10	5	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	13-Jul-10	
17-Jun-10	5	Methylene Chloride	JB	0.067	84.9	0.233	13-Jul-10	
17-Jun-10	5	Carbon Disulfide	U	0.12	76.1	0.373	13-Jul-10	
17-Jun-10	5	Bromoform	U	0.12	252.8	1.241	13-Jul-10	
17-Jun-10	5	Bromodichloromethane	U	0.11	163.8	0.737	13-Jul-10	
17-Jun-10	5	1,1-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10	
17-Jun-10	5	1,1-Dichloroethene	U	0.11	97.0	0.436	13-Jul-10	
17-Jun-10	5	Trichlorofluoromethane			0.27	137.4	1.517	13-Jul-10
17-Jun-10	5	Dichlorodifluoromethane			0.61	120.9	3.016	13-Jul-10
17-Jun-10	5	1,1,2-Trichlorotrifluoroethane	J	0.094	187.4	0.720	13-Jul-10	
17-Jun-10	5	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	13-Jul-10	
17-Jun-10	5	1,2-Dichloropropane	U	0.12	113.0	0.555	13-Jul-10	
17-Jun-10	5	MEK	B	0.58	72.1	1.710	13-Jul-10	
17-Jun-10	5	1,1,2-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10	
17-Jun-10	5	Trichloroethene	U	0.12	131.4	0.645	13-Jul-10	
17-Jun-10	5	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	13-Jul-10	
17-Jun-10	5	Hexachlorobutadiene	U	0.11	260.7	1.173	13-Jul-10	
17-Jun-10	5	o-Xylene	U	0.12	106.2	0.521	13-Jul-10	
17-Jun-10	5	1,2-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10	
17-Jun-10	5	1,2,4-Trimethylbenzene	U	0.12	120.2	0.590	13-Jul-10	
17-Jun-10	5	Ethylbenzene	U	0.12	106.2	0.521	13-Jul-10	

17-Jun-10	5	Styrene	U	0.12	104.2	0.511	13-Jul-10
17-Jun-10	5	1,4-Dichlorobenzene	U	0.11	147.0	0.661	13-Jul-10
17-Jun-10	5	1,2-Dibromoethane	U	0.11	187.9	0.845	13-Jul-10
17-Jun-10	5	1-bromopropane	U	0.11	123.0	0.553	13-Jul-10
17-Jun-10	5	1,3-Butadiene	U	0.11	54.1	0.243	13-Jul-10
17-Jun-10	5	Acrolein	B	0.51	56.1	1.170	13-Jul-10
17-Jun-10	5	1,2-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
17-Jun-10	5	MIBK	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	5	m/p-Xylene	U	0.23	106.2	0.999	13-Jul-10
17-Jun-10	5	1,3,5-Trimethylbenzene	U	0.12	120.2	0.590	13-Jul-10
17-Jun-10	5	Toluene	J	0.055	92.1	0.207	13-Jul-10
17-Jun-10	5	Chlorobenzene	U	0.11	112.6	0.507	13-Jul-10
17-Jun-10	5	Tetrahydrofuran	U	0.12	72.1	0.354	13-Jul-10
17-Jun-10	5	n-Hexane	U	0.12	86.2	0.423	13-Jul-10
17-Jun-10	5	Cyclohexane	U	0.12	84.2	0.413	13-Jul-10
17-Jun-10	5	Propene		0.23	42.1	0.396	13-Jul-10
17-Jun-10	5	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	13-Jul-10
17-Jun-10	5	Dibromochloromethane	U	0.11	208.3	0.937	13-Jul-10
17-Jun-10	5	Tetrachloroethene	U	0.12	165.8	0.814	13-Jul-10
17-Jun-10	5	n-Heptane	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	5	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	5	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	5	1,3-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
17-Jun-10	5	2-Hexanone	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	5	1-Ethyl-4-methylbenzene	U	0.12	120.2	0.590	13-Jul-10
17-Jun-10	5	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	13-Jul-10
17-Jun-10	5	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10
17-Jun-10	5	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10
17-Jun-10	6	Carbon Tetrachloride	J	0.11	153.8	0.692	13-Jul-10
17-Jun-10	6	Acetone		8.6	58.1	20.433	13-Jul-10
17-Jun-10	6	Chloroform	U	0.11	119.4	0.537	13-Jul-10
17-Jun-10	6	Benzene		0.18	78.1	0.575	13-Jul-10
17-Jun-10	6	1,1,1-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
17-Jun-10	6	Bromomethane	U	0.13	95.0	0.505	13-Jul-10
17-Jun-10	6	Chloromethane		0.78	50.5	1.611	13-Jul-10
17-Jun-10	6	Chloroethane	U	0.13	64.5	0.343	13-Jul-10
17-Jun-10	6	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	13-Jul-10
17-Jun-10	6	Methylene Chloride	JB	0.075	84.9	0.260	13-Jul-10
17-Jun-10	6	Carbon Disulfide	U	0.12	76.1	0.373	13-Jul-10
17-Jun-10	6	Bromoform	U	0.12	252.8	1.241	13-Jul-10
17-Jun-10	6	Bromodichloromethane	U	0.11	163.8	0.737	13-Jul-10
17-Jun-10	6	1,1-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
17-Jun-10	6	1,1-Dichloroethene	U	0.11	97.0	0.436	13-Jul-10
17-Jun-10	6	Trichlorofluoromethane		0.33	137.4	1.854	13-Jul-10
17-Jun-10	6	Dichlorodifluoromethane		0.85	120.9	4.202	13-Jul-10
17-Jun-10	6	1,1,2-Trichlorotrifluoroethane	J	0.11	187.4	0.843	13-Jul-10
17-Jun-10	6	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	13-Jul-10
17-Jun-10	6	1,2-Dichloropropane	U	0.12	113.0	0.555	13-Jul-10
17-Jun-10	6	MEK		0.99	72.1	2.919	13-Jul-10
17-Jun-10	6	1,1,2-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
17-Jun-10	6	Trichloroethene	U	0.12	131.4	0.645	13-Jul-10
17-Jun-10	6	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	13-Jul-10

17-Jun-10	6	Hexachlorobutadiene	U	0.11	260.7	1.173	13-Jul-10
17-Jun-10	6	o-Xylene	J	0.049	106.2	0.213	13-Jul-10
17-Jun-10	6	1,2-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
17-Jun-10	6	1,2,4-Trimethylbenzene	J	0.047	120.2	0.231	13-Jul-10
17-Jun-10	6	Ethylbenzene	J	0.04	106.2	0.174	13-Jul-10
17-Jun-10	6	Styrene	U	0.12	104.2	0.511	13-Jul-10
17-Jun-10	6	1,4-Dichlorobenzene	U	0.11	147.0	0.661	13-Jul-10
17-Jun-10	6	1,2-Dibromoethane	U	0.11	187.9	0.845	13-Jul-10
17-Jun-10	6	1-bromopropane	U	0.11	123.0	0.553	13-Jul-10
17-Jun-10	6	1,3-Butadiene	U	0.11	54.1	0.243	13-Jul-10
17-Jun-10	6	Acrolein	U	0.11	56.1	0.252	13-Jul-10
17-Jun-10	6	1,2-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
17-Jun-10	6	MIBK	J	0.1	100.2	0.410	13-Jul-10
17-Jun-10	6	m/p-Xylene	J	0.12	106.2	0.521	13-Jul-10
17-Jun-10	6	1,3,5-Trimethylbenzene	J	0.021	120.2	0.103	13-Jul-10
17-Jun-10	6	Toluene		0.29	92.1	1.092	13-Jul-10
17-Jun-10	6	Chlorobenzene	U	0.11	112.6	0.507	13-Jul-10
17-Jun-10	6	Tetrahydrofuran	U	0.12	72.1	0.354	13-Jul-10
17-Jun-10	6	n-Hexane		0.14	86.2	0.494	13-Jul-10
17-Jun-10	6	Cyclohexane	U	0.12	84.2	0.413	13-Jul-10
17-Jun-10	6	Propene		0.24	42.1	0.413	13-Jul-10
17-Jun-10	6	1,2,4-Trichlorobenzene		0.17	181.4	1.261	13-Jul-10
17-Jun-10	6	Dibromochloromethane	U	0.11	208.3	0.937	13-Jul-10
17-Jun-10	6	Tetrachloroethene	U	0.12	165.8	0.814	13-Jul-10
17-Jun-10	6	n-Heptane	J	0.076	100.2	0.311	13-Jul-10
17-Jun-10	6	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	6	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	6	1,3-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
17-Jun-10	6	2-Hexanone		0.38	100.2	1.557	13-Jul-10
17-Jun-10	6	1-Ethyl-4-methylbenzene	J	0.022	120.2	0.108	13-Jul-10
17-Jun-10	6	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	13-Jul-10
17-Jun-10	6	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10
17-Jun-10	6	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10
17-Jun-10	7	Carbon Tetrachloride	J	0.1	153.8	0.629	28-Jun-10
17-Jun-10	7	Acetone		8.7	58.1	20.670	28-Jun-10
17-Jun-10	7	Chloroform	U	0.11	119.4	0.537	28-Jun-10
17-Jun-10	7	Benzene		3.1	78.1	9.901	28-Jun-10
17-Jun-10	7	1,1,1-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10
17-Jun-10	7	Bromomethane	U	0.13	95.0	0.505	28-Jun-10
17-Jun-10	7	Chloromethane		0.66	50.5	1.363	28-Jun-10
17-Jun-10	7	Chloroethane	U	0.13	64.5	0.343	28-Jun-10
17-Jun-10	7	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	28-Jun-10
17-Jun-10	7	Methylene Chloride	B	0.4	84.9	1.389	28-Jun-10
17-Jun-10	7	Carbon Disulfide	U	0.12	76.1	0.373	28-Jun-10
17-Jun-10	7	Bromoform	U	0.12	252.8	1.241	28-Jun-10
17-Jun-10	7	Bromodichloromethane	U	0.11	163.8	0.737	28-Jun-10
17-Jun-10	7	1,1-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10
17-Jun-10	7	1,1-Dichloroethene	U	0.11	97.0	0.436	28-Jun-10
17-Jun-10	7	Trichlorofluoromethane		0.26	137.4	1.461	28-Jun-10
17-Jun-10	7	Dichlorodifluoromethane		0.61	120.9	3.016	28-Jun-10
17-Jun-10	7	1,1,2-Trichlorotrifluoroethane	J	0.082	187.4	0.628	28-Jun-10
17-Jun-10	7	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	28-Jun-10

17-Jun-10	7	1,2-Dichloropropane	U	0.12	113.0	0.555	28-Jun-10
17-Jun-10	7	MEK	B	0.53	72.1	1.563	28-Jun-10
17-Jun-10	7	1,1,2-Trichloroethane	U	0.12	133.4	0.655	28-Jun-10
17-Jun-10	7	Trichloroethene	U	0.12	131.4	0.645	28-Jun-10
17-Jun-10	7	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	28-Jun-10
17-Jun-10	7	Hexachlorobutadiene	U	0.11	260.7	1.173	28-Jun-10
17-Jun-10	7	o-Xylene	J	0.033	106.2	0.143	28-Jun-10
17-Jun-10	7	1,2-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10
17-Jun-10	7	1,2,4-Trimethylbenzene	U	0.12	120.2	0.590	28-Jun-10
17-Jun-10	7	Ethylbenzene	J	0.015	106.2	0.065	28-Jun-10
17-Jun-10	7	Styrene	U	0.12	104.2	0.511	28-Jun-10
17-Jun-10	7	1,4-Dichlorobenzene	U	0.11	147.0	0.661	28-Jun-10
17-Jun-10	7	1,2-Dibromoethane	U	0.11	187.9	0.845	28-Jun-10
17-Jun-10	7	1-bromopropane	U	0.11	123.0	0.553	28-Jun-10
17-Jun-10	7	1,3-Butadiene	U	0.11	54.1	0.243	28-Jun-10
17-Jun-10	7	Acrolein	B	0.51	56.1	1.170	28-Jun-10
17-Jun-10	7	1,2-Dichloroethane	U	0.11	99.0	0.445	28-Jun-10
17-Jun-10	7	MIBK	U	0.12	100.2	0.492	28-Jun-10
17-Jun-10	7	m/p-Xylene	J	0.07	106.2	0.304	28-Jun-10
17-Jun-10	7	1,3,5-Trimethylbenzene	U	0.12	120.2	0.590	28-Jun-10
17-Jun-10	7	Toluene		0.5	92.1	1.883	28-Jun-10
17-Jun-10	7	Chlorobenzene	U	0.11	112.6	0.507	28-Jun-10
17-Jun-10	7	Tetrahydrofuran	U	0.12	72.1	0.354	28-Jun-10
17-Jun-10	7	n-Hexane	J	0.033	86.2	0.116	28-Jun-10
17-Jun-10	7	Cyclohexane	U	0.12	84.2	0.413	28-Jun-10
17-Jun-10	7	Propene		0.37	42.1	0.637	28-Jun-10
17-Jun-10	7	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	28-Jun-10
17-Jun-10	7	Dibromochloromethane	U	0.11	208.3	0.937	28-Jun-10
17-Jun-10	7	Tetrachloroethene	U	0.12	165.8	0.814	28-Jun-10
17-Jun-10	7	n-Heptane	U	0.12	100.2	0.492	28-Jun-10
17-Jun-10	7	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10
17-Jun-10	7	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	28-Jun-10
17-Jun-10	7	1,3-Dichlorobenzene	U	0.12	147.0	0.721	28-Jun-10
17-Jun-10	7	2-Hexanone	U	0.12	100.2	0.492	28-Jun-10
17-Jun-10	7	1-Ethyl-4-methylbenzene	U	0.12	120.2	0.590	28-Jun-10
17-Jun-10	7	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	28-Jun-10
17-Jun-10	7	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10
17-Jun-10	7	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	28-Jun-10
17-Jun-10	8	Carbon Tetrachloride	J	0.071	153.8	0.447	13-Jul-10
17-Jun-10	8	Acetone		7.9	58.1	18.770	13-Jul-10
17-Jun-10	8	Chloroform	U	0.11	119.4	0.537	13-Jul-10
17-Jun-10	8	Benzene	J	0.082	78.1	0.262	13-Jul-10
17-Jun-10	8	1,1,1-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
17-Jun-10	8	Bromomethane	U	0.13	95.0	0.505	13-Jul-10
17-Jun-10	8	Chloromethane		0.67	50.5	1.384	13-Jul-10
17-Jun-10	8	Chloroethane	U	0.13	64.5	0.343	13-Jul-10
17-Jun-10	8	Chloroethene (vinyl chloride)	U	0.13	62.5	0.332	13-Jul-10
17-Jun-10	8	Methylene Chloride	JB	0.067	84.9	0.233	13-Jul-10
17-Jun-10	8	Carbon Disulfide	U	0.12	76.1	0.373	13-Jul-10
17-Jun-10	8	Bromoform	U	0.12	252.8	1.241	13-Jul-10
17-Jun-10	8	Bromodichloromethane	U	0.11	163.8	0.737	13-Jul-10
17-Jun-10	8	1,1-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10

17-Jun-10	8	1,1-Dichloroethene	U	0.11	97.0	0.436	13-Jul-10
17-Jun-10	8	Trichlorofluoromethane		0.27	137.4	1.517	13-Jul-10
17-Jun-10	8	Dichlorodifluoromethane		0.61	120.9	3.016	13-Jul-10
17-Jun-10	8	1,1,2-Trichlorotrifluoroethane	J	0.094	187.4	0.720	13-Jul-10
17-Jun-10	8	1,2-Dichlorotetrafluoroethane	U	0.12	170.9	0.839	13-Jul-10
17-Jun-10	8	1,2-Dichloroproppane	U	0.12	113.0	0.555	13-Jul-10
17-Jun-10	8	MEK	B	0.58	72.1	1.710	13-Jul-10
17-Jun-10	8	1,1,2-Trichloroethane	U	0.12	133.4	0.655	13-Jul-10
17-Jun-10	8	Trichloroethylene	U	0.12	131.4	0.645	13-Jul-10
17-Jun-10	8	1,1,2,2-Tetrachloroethane	U	0.11	167.9	0.755	13-Jul-10
17-Jun-10	8	Hexachlorobutadiene	U	0.11	260.7	1.173	13-Jul-10
17-Jun-10	8	o-Xylene	U	0.12	106.2	0.521	13-Jul-10
17-Jun-10	8	1,2-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
17-Jun-10	8	1,2,4-Trimethylbenzene	U	0.12	120.2	0.590	13-Jul-10
17-Jun-10	8	Ethylbenzene	U	0.12	106.2	0.521	13-Jul-10
17-Jun-10	8	Styrene	U	0.12	104.2	0.511	13-Jul-10
17-Jun-10	8	1,4-Dichlorobenzene	U	0.11	147.0	0.661	13-Jul-10
17-Jun-10	8	1,2-Dibromoethane	U	0.11	187.9	0.845	13-Jul-10
17-Jun-10	8	1-bromopropane	U	0.11	123.0	0.553	13-Jul-10
17-Jun-10	8	1,3-Butadiene	U	0.11	54.1	0.243	13-Jul-10
17-Jun-10	8	Acrolein	B	0.51	56.1	1.170	13-Jul-10
17-Jun-10	8	1,2-Dichloroethane	U	0.11	99.0	0.445	13-Jul-10
17-Jun-10	8	MIBK	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	8	m/p-Xylene	U	0.23	106.2	0.999	13-Jul-10
17-Jun-10	8	1,3,5-Trimethylbenzene	U	0.12	120.2	0.590	13-Jul-10
17-Jun-10	8	Toluene	J	0.055	92.1	0.207	13-Jul-10
17-Jun-10	8	Chlorobenzene	U	0.11	112.6	0.507	13-Jul-10
17-Jun-10	8	Tetrahydrofuran	U	0.12	72.1	0.354	13-Jul-10
17-Jun-10	8	n-Hexane	U	0.12	86.2	0.423	13-Jul-10
17-Jun-10	8	Cyclohexane	U	0.12	84.2	0.413	13-Jul-10
17-Jun-10	8	Propene		0.23	42.1	0.396	13-Jul-10
17-Jun-10	8	1,2,4-Trichlorobenzene	U	0.12	181.4	0.890	13-Jul-10
17-Jun-10	8	Dibromochloromethane	U	0.11	208.3	0.937	13-Jul-10
17-Jun-10	8	Tetrachloroethylene	U	0.12	165.8	0.814	13-Jul-10
17-Jun-10	8	n-Heptane	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	8	cis-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	8	trans-1,2-Dichloroethene	U	0.12	97.0	0.476	13-Jul-10
17-Jun-10	8	1,3-Dichlorobenzene	U	0.12	147.0	0.721	13-Jul-10
17-Jun-10	8	2-Hexanone	U	0.12	100.2	0.492	13-Jul-10
17-Jun-10	8	1-Ethyl-4-methylbenzene	U	0.12	120.2	0.590	13-Jul-10
17-Jun-10	8	Methyl Tert-Butyl Ether	U	0.12	88.2	0.433	13-Jul-10
17-Jun-10	8	cis-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10
17-Jun-10	8	trans-1,3-Dichloropropene	U	0.12	111.0	0.545	13-Jul-10

ORGANICS LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value, below the quantification limit, but

above the method detection limit.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods. (ie, pesticides, triazines, PCB's, etc). The reported value is the average of the two results.

Q - This flag identifies the average of multiple results from multiple analysis, or the average of the averages of dual column analysis methods.

_ - (Underline) - The compound is present at the amount reported. No flag.

X - Non-target analytes co-elute with compound. Identification unable to be confirmed.